INDEX TO VOLUME 57

New names and the final members of new combinations are in **bold face type.**

Acer 168, 170, 239; Florissanti 239; oregoniana 239; rubrum 167, 169, 173, 175, 510; saccharinum 424; saccharum 3, 8, 9, 19
Acer, The morphogenetic relationships between cell and organ in the petiole of 1
Achillea borealis 338; Millefolium 167, 175, 341
Acrotylus clavatus 394
Actaea arguta, 334
Actinococcus aggregatus 607, 608; subcutaneus 607
Adenodesma 67
Adenostoma 614
Adiantum pedatum aleuticum 328, 330
Aeschinanthus 318
Agropyron tenerum 331; violaceum 331
Agrostis hiemalis geminata 331; palustris 340, 341
Ahnfeltia Durvillaei 608; plicata 608
Aira caespitosa 331
Alaska, The seed-plants and ferns of the Glacier Bay National Monument 327
Albugo candida 428
Alga from Australia, Bactrophora irregularis, a new brown 381
Algae new to Bermuda, Two genera of 389
Algae of Uruguay, Notes on the 605
Allium vineale 174
Alnus tenuifolia 328, 333
Alsine aquatica 512; media 40, 343, 512
Alternanthera 510
Amarantus retroflexus 175
Ambrosia coronopifolia 30; psilostachya 30; trifida 510
Amelanchier canadensis 170, 175
American Botanical Literature, Index to 76, 141, 183, 259, 347, 409, 515, 561, 625
Ammophila 171, arenaria 166, 174
Ampelomyces quisqualis 421, 423
Ampelopsis arborea 510, 512
Amphiroa Beauvoisii 610; foliacea 610
Anaphalis margaritacea 338
Andropogon scoparius 174
Anemone hudsoniana 334; parviflora 334
Angelica genuflexa 336
Anoplanthus comosus 615
Antennaria borealis 338; monocephala 338; pallida 338
Anthoceros, 277, 281, 282, 525, 526, 528–530, 585
Antirrhinum majus 49
Aphyllon arenosum 623; californicum 617; comosum 615; Cooperi 620; Dugesii 613; Ludovicianum 620; Ludovicianum Cooperi 620; multiflorum 622; pinetorum 614; tuberosum 614; violaceum 616
Apium Ammi 512, 513
Arabis ambigua 334; hirsuta 334; lyrata 175; virginica 512
Arctostaphylos Uva-ursi 336
Arctous alpina 336
Areca 495
Arenaria peploides 166, 175; serpyllifolia 175, 342
Arisaema japonica 58
Aristida tuberculosa 174
Armillaria mellea 489; mucida 489
Arnica Chamissonis 338; obtusifolia 338
Artemisia caudata 166, 175; gnaphaloides 34; spinescens 34–36; Stelleriana 166, 171, 175; tridentata 615
Aruncus vulgaris 334
Ascobolus magnificus 493
Asparagus officinalis 174
Aspergillus 129
Asplenium viride 330
Aster subspicatus 338; tenuifolius 164, 175
Astereae: the origin of their furrow configurations, Pollen grains in the identification and classification of plants—V. Haplopappus and other 21
Astragalus 397, 402, 406; accidens 400; adsurgens 402; alpinus 335; apilosus 401; araneosus 406; arrectus 400–402; arrectus Kelseyi 400; atratus 404; atropubescens 400, 401; Beckwithii 400; boiseanus 400; Bolanderi 400; Cimae 400; Congdoni 398; conjunctus 403; conjunctus oxytropoides 403; Cusickii 400, 401; drepanolobus 405; Drummondii 399; eremiticus 400; eremiticus Spencianus 400; galegoides 398; glaber 400, 401; Hendersoni 400; Hoodianus 403; Howellii 397; iodanthus 407; Kelseyi 400–402; Layneae 398; lentiginosus 406, 407; leucophyllus 400, 401; malheurensis 400, 401; Michauxianus 401; microcystis 403; misellus 397, 404; miser 403, 404; mokiacensis 406; obscurus 400, 402, 404, 405; palousensis 400, 401; panamintensis 405; Pattersonii 401; racemosus 398, 399; racemosus brevisetus 397; rasus 398; reventoides 402; reventus 400, 402, 403; reventus conjunctus 402; salinus 400; scopulorum 398; straturensis 404; subcompressus 398; sulcatus 399; terminalis 400, 402; Traskiae 399; tricarinatus 405; ursinus 406; vallaris 400; Wilsoni 406
Atelophragma 399; Rusbyi 405
Athyrium filix-foemina 328, 330
Atrichum 526, 527, 529; undulatum 526, 529
Atriplex alaskensis 333; Gmelini, 333; patula hastata 164, 166, 174
Australia, Bactrophora irregularis, a new brown alga from 381
Avena brevis 497; nuda chinensis 449; sativa 449, 462
Avicennia nitida 513
Azalea 302

Baccharis 27, 510, 513, 615; halimifolia 167, 175
Bacopa Monniera 512
Bactrophora 381, 384–386; Filum 381, 385; **irregularis** 385; nigrescens 381, 386; vermicularis 381, 383, 385
Bactrophora irregularis, a new brown alga from Australia 381
Bamboo, Phyllostachys nigra, with special reference to atmospheric conditions of temperature and moisture, Daily periodicity of growth in the 533
Bambusa Balcoa 534; gigantea 534; macroculmis 534; spinosa 535; vulgaris 534; vulgaris vittata 534
Basella 32; alba 375
Basisporium 236; gallarum 235, 236
Berberis 172; vulgaris 170, 175
Berchemia scandens 512
Bermuda, Two genera of algae new to 389
BERRY, EDWARD W., A new miocene cercis from Idaho and Washington 239
Betula 170, 171, 341; populifolia 169, 171, **174**
Bidens bipinnata 167, 175
Bignonia tomentosa 47
Blakea **argentea** 75; brachyura 75; caudata 75; rostrata 75
BLINKS, LAWRENCE ROGERS and ANNE HOF BLINKS, Two genera of algae new to Bermuda 389
BOLD, HAROLD C., Life history and cell structure of Chlorococcum infusionum 577
Boltonia 24
Borrichia frutescens 513
Boschniakia rossica 337; tuberosa 614
Botanical Literature, Index to American 76, 141, 183, 259, 347, 409, 515, 561, 625
Botrychium vulgare 330
Botrytis 452, 475; cinerea 452
Boussingaultia baselloides 31
Bowers, Clement Gray, The development of pollen and viscin strands in Rhododendron catawbiense 285
Brassica pekinensis 461
Bromus mollis 446; tectorum 166, 174; secalinus 446
BROWN, CLAIR A., Plants observed on an excursion to Grand Isle, Louisiana 509
Brunnichia cirrhosa 510
Bryopsis plumosa 606
Bryum 527; argenteum 526, 527, 529
Buchnera elongata 512
Buckwheat grown in solution cultures, Toxic effects of iodine and nickel on 127
Burragea 315, 321
Bursa Bursa-pastoris 342, 343
Byssocystis textilis 421, 423

Caeoma nitens 462, 488, 489, 493, 496
Cakile 171; edentula 164, 166, 175
Calamagrostis neglecta 331; scabra 331
Calandrinia 28
Callithamnion 610; Arbuscula 609, 610; **Felipponei** 609, 610
Callitriche 512; palustris 335
Caltha palustris asarifolia 334
Camarophyllus virgineus 488
Campanula alaskana 338
CAMPBELL, DOUGLAS HOUGHTON, The relationships of Paulownia 47
Capriola Dactylon 512
Carduus spinosissimus 510
Carex capillaris 332; cryptocarpa 332; Hassei 332; Hepburnii 332; incurva 332; Lyngbyei 332; macrochaeta 332; phaeocephala 332; vulgaris 332
Carpites menthoides 239
Carthamnus lanatus 28
Carya 169
Cassia idahoensis 239
Castanea 169; castaneaefolia 239; dentata 169
Castilleja lancifolia 337; lutescens 337; miniata 337; pallida 337; rhexifolia 337
Catalpa 50; speciosa 47
Catharinea 525
Celastrus scandens 167, 170, 175
Celtis 168, 172; laevigata 512; occidentalis 167, 169, 170, 173, 174
Cenchrus pauciflorus 512; tribuloides 166, 174
Centaurea melitensis 28
Centella repanda 511, 512
Centunculus minimus 512
Cephalosporium acremonium 237
Cerastium viscosum 512; vulgatum 340, 342, 343
Ceratothamnion Pikeanum 609, 610
Cercis 239–242; canadensis 242; chinensis 242; **idahoensis** 240, 241, 243; occidentalis 241, 242; siliquastrum 242; spokanensis 243
Cerebratulus 373
Chaerophyllum Tainturieri 512
Chaetochloa purpurascens 512; viridis 342
Chaetomorpha 155; aerea 595
Chamaecyparis 172
Characium 585, 586, 589
Chelidonium majus 512
Chenopodium album 342; anthelminticum 512; **deltaphyllum** 559; Fremontii 559; leptophyllum 174
Chlamydomonas 360, 365, 594, 599; Kleinii 365, 366; nasuta 586, 594; Steinii 365
Chloris petraea 512
Chlorococcum 577–579, 583, 584, 587, 588, 590, 593, 595; humicolum 590, 591, 593, 598, 599; infusionum 577, 578, 582, 583, 586, 587, 589–591, 595–599
Chlorococcum infusionum, Life history and cell structure of 577
Chlorogonium 360, 599
Chloroplasts of Selaginella, The 277
Chondria dasyphylla 609
Chrysanthemum Leucanthemum 343
CHRYSLER, M. A., The origin and development of the vegetation of Sandy Hook 163
Chrysopsis **elata** 560
Cicinnobolus 421–437; Asteris 423; Cesatii 421, 423, 424, 431; cotoneus 423; floren-

tinus 421, 423; Humuli 423, 424; major 423; Oidii 423; quercinus 424; Verbenae 424; Uncinulae 423, 424
Cicinnobolus Cesatii, a study in host-parasite relationships 241
Cintractia Sorghi-vulgaris 446
Circaea 319
Cirsium lanceolatum 342
Cladophora 594, 605; fracta 605; fracta simplex 605
Cladosiphon nigrescens 381
Cladothamnus 309
Clarkia 319
Clerodendron paniculatum 36
Closterium 579, 586, 588, 589
Cnemidophacos 402
COBURN, HELEN R., and DORIS L. DEAN, The effect of increased activities and change in mode of transportation upon the distribution of introduced species in the vicinity of Douglas Lake, Michigan 339
Cochlearia oblongifolia 334
Codium decorticatum 606, 608; decumbens 606; lineare 606
Coelopleurum Gmelini 336
Coleochaete 436
Colletotrichum 475; Lindemuthianum 452
COLLINS, G. N., The phylogeny of maize 199
Colombia and Ecuador, Studies on the flora of northern South America—XIV. Melastomataceae from 63
Colorado, New plants from 559
Commelina erecta 512
Conioselinum Gmelini 336
Coniothyrium terricola 123, 124
Coniothyrium terricola proves to be a species of Thielavia 123
Conringia orientalis 339
Convolvulus sepium 167, 175
COOPER, WILLIAM S., The seed-plants and ferns of the Glacier Bay National Monument, Alaska 327
Coprinus curtus 489; ephemerus 488, 489, 493; ephermeroides 489; fimetarius 493; Friesii 493; narcoticus 489; radians 489; stercorarius 489
Corallina granifera 610; officinalis 610
Corallorhiza Mertensiana 332
Cornus 172; florida 167, 169, 170, 175
Corradoria complanata 609
Corydalis 32; lutea 36
Corynomorpha 389; clavata 394; prismatica 394
Cosmos, 21
COTTON, MARJORIE, Toxic effects of iodine and nickel in buckwheat grown in solution cultures 127
Cremanium 72
Crepis nana 338
Cryptantha 560; exigua 560
Cryptogramma acrostichoides 330
Cryptopleura fimbriata 608
Cucurbita Pepo 20
Cuscuta 513
Cycloloma atriplicifolium 174
Cynoglossum officinale 342
Cyperus diandrus 174; esculentus 512; Grayii 174; strigosus 174
Cypripedium montanum 332
Cystium 400, 406, 407; araneosum 407; diffusum 406; heliophilum 400; lentiginosum 406
Cystococcus humicola 590
Cystopteris fragilis 330

Dactylis glomerata 174
Dahlia 371–373, 375–378; coccinea 371; excelsa 371; pubescens 371; variabilis 32, 371
Dahlia pollen grains, The origin of the six-furrowed configuration of 371
Daily periodicity of growth in the bamboo, Phyllostachys nigra, with special reference to atmospheric conditions of temperature and moisture 533
Darluca 431; filum 431
Dasya 610
DEAN, DORIS L., and HELEN R. COBURN, The effect of increased activities and change in mode of transportation upon the distribution of introduced species in the vicinity of Douglas Lake, Michigan 339
Dendrocalamus 534, 536, 548, 549; giganteus 535, 536
Dendropogon usneoides 510
Development of pollen and viscin strands in Rhododendron catawbiense, The 285
Development of the vegetation of Sandy Hook, The origin and 163
Dianthus 456; Carthusianorum 457
Diaporthe 492
Dichondra carolinensis 512
Dichromena colorata 511, 512
Diospyros virginiana 512
Diplacus 50
Diplodia 236, 237; Zeae 233, 236
Distichlis spicata 164, 174
Doassansia 487
Dodecatheon pauciflorum 336
Douglas Lake, Michigan, The effect of increased activities and change in mode of transportation upon the distribution of introduced species in the vicinity of 339
Drimys Winteri 303
Dryas Drummondii 328, 334; integrifolia 335; octopetala 335
Dryopteris dilatata 328, 330; Linnaeana 330
DURRELL, L. W., The pathology of maize 233

Ecuador, Studies on the flora of northern South America—XIV. Melastomataceae from Colombia and 63
Effect of chloroform upon the rotation in the internodes of Nitella, The 153
Effect of increased activities and change in mode of transportation upon the distribution of introduced species in the vicinity of Douglas Lake, Michigan, The 339

Effects of iodine and nickel on buckwheat grown in solution cultures, Toxic 127
Eleocharis 512; albida 512; palustris 332
Elliottia 309
Elymus 335; arenarius 331, 333; virginicus 174
EMMONS, CHESTER W., Cicinnobolus Cesatii, a study in host-parasite relationships 421; Coniothyrium terricola proves to be a species of Thielavia 123
Empetrum nigrum 335
Endophyllum Euphorbiae 488, 489
Enteromorpha compressa 605, 606; compressa procerrima 606; compressa constricta 605; intestinalis 605; Linza 605; prolifera 606
Entyloma 487; Nymphaeae 453, 454
Epilobium 302, 317; adenocaulon 335; anagallidifolium 335; angustifolium 304, 335; behringianum 335; Bongardi 335; latifolium 328, 335; leptocarpum 336
Epiphyllum truncatum 31
Equisetum 282; arvense 330; hyemale robustum 330; scirpoides 330; variegatum 328, 330, 335
Eragrostis pectinacea 174; pilosa 174; secundiflora 512
Erianthus 510
Erica 303, 304; denticulata 303; stricta 303; tetralix 304, 309
Erigeron 510, 616; acris 338; peregrinus 338; repens 512; strigosus 31, 34, 35, 36, 46; uniflorus 338
Eriophorum Scheuchzeri 332
Erysiphe 421, 422, 425–430, 437; Cichoracearum 423, 424, 428, 431; Galeopsidis 421
Eucharis 452
Euchlaena 199–203, 205–210; mexicana 200, 201; perennis 200–202, 208, 230
Eudorina 359–362, 364–366; **Carteri** 361–363; charkowiensis 361; echidna 361, 362, 364; elegans 359, 360, 362, 636; illinoisensis 361; **plusicocca** 360–364; stagnale 362; Steinii 362; **unicocca** 360–364
Euhaplopappus 46
Eumiconia 67–69
Euonymus Knowltoni 239
Eupatorium capillifolium 510; urticaefolium 167, 176
Euphorbia 511, 512; Cyparissias 342; polygonifolia 166, 171, 175
Euphrasia mollis 337
Euscapania 87
EVANS, ALEXANDER W., Three species of Scapania from western North America 87

Fabaceae—XIII, Notes on 397
Fagara Clava-Herculis 512
Fagus pacifica 239
Fatsia horrida 336
Ferns of the Glacier Bay National Monument, Alaska, The seed-plants and 327
FESSENDEN, ANNA PARKER, and JOSEPHINE E. TILDEN, Bactrophora irregularis, a new brown alga from Australia 381
Festuca octoflora 512; rubra 331
Flora of northern South America—XIV. Melastomataceae from Colombia and Ecuador, Studies on the 63
Fragaria 175; chiloensis 335
Fraxinus 239; americana 31; caroliniana 510
Fresenia fasciculata 31, 35
Fritillaria camtschatcensis 332
Fumaria spicata 39, 40
Funaria 527; americana 526, 527, 529
Fusarium 452; moniliforme 235

Galeopsis Tetrahit 421
Galera tenera 488, 489
Galium Aparine 512; Claytonii 512; trifidum 337; triflorum 337
Gaura 302
Gaylussacia 172
Gelidium cartilagineum 607; corneum 606–610
Genetics of maize, The 221
Gentiana acuta 337; propinqua 337
Geranium carolinianum 512; Robertianum 167, 175
Gerardia 164
Geum macrophyllum 335
Gibberella 235; Saubinetti 235
Gigantochloa 536; aspera 535
Gigartina elegans 607; Teedii 607
Glacier Bay National Monument, Alaska, The seed-plants and ferns of the 327
Glaux maritima 336
GLEASON, H. A., Studies on the flora of Northern South America—XIV. Melastomataceae from Colombia and Ecuador 63
Gleditsia triancanthos 510, 512
Glyptostrobus europaeus 239
Gnaphalium obtusifolium 166, 176; purpureum 512
Godetia 324
Gonium 359, 364–367; formosum 366, 367; lacustre 367; pectorale 366, 367; sacculiferum 368; sociale 366–368
Grateloupia cuneifolia 610; filicina 607, 610
Grindelia 615
Gymnogongrus Griffithsiae 607, 608
Gymnostyles anthemifolia 512

Haastia 24
Habenaria bracteata 332; dilatata 332; hyperborea 332; leucostachys 332
Haematococcus 365
Halicystis 389–391, 393, 394; **Osterhoutii** 389, 392, 393; ovalis 389, 390, 392, 393; parvula 389, 393
Hamosa 398, 404–406; atratiformis 404
Haplopappus acaulis glabratus 24, 27, 31, 32, 46; acaulis typicus 27, 31, 32, 46; chrysanthemifolius 46; ciliatus 30, 31; croceus typicus 31; divaricatus 24; ericoides 31; Hartwegi 31; lanuginosus Andersonii 30, 31; lanuginosus typicus 29, 30, 31, 46; linearifolius interior 31; MacLeanii 30, 31, 33, 36, 46; propinquus 24; spinulosus glaberrimus 29, 31; spinulosus scabrellus 29, 31; stenophylus 31, 34, 46

Haplopappus and other Astereae: the origin of their furrow configurations, Pollen grains in the identification and classification of plants—V 21
HARRIS, J. ARTHUR, TRUMAN A. PASCOE, and IVAN D. JONES, Note on the tissue fluids of Phoradendron juniperinum parasitic on Juniperus utahensis 113
Hartmannia 319
Hecastocleis Shockleyi 30
Hedera 2
Hedysarum americanum 335
HEIN, ILLO, The tetrakaidecahedron in pseudoparenchyma 59
Helianthus 424; tuberosus 423, 436, 437
Helminthosporium 128
Hemerocallis 292; fulva 292
Heracleum lanatum 336
Hesperonix 400
Heterogaura 315
Heuchera glabra 334
Hibiscus 164; Moscheutos 168, 175
Hippuris vulgaris 336
Homalobus 405; tenuifolius 405
Honkenya peploides oblongifolia 333
Hordeum boreale 331; distichum 445
Host and pathogen in the oat smut, Ustilago Avenae, Relation of 443
Host-parasite relationships, Cicinnobolus Cesatii, a study 241
HOWE, MARSHALL A., Notes on the algae of Uruguay 605
Hudsonia 171; tomentosa 166, 167, 175
Humaria granulata 490, 492
Hydrocotyle 511, 512; vulgaris 318
Hydrodictyon 585, 587–589, 593, 594, 598
Hygrocybe ceracea 488; conica 488
Hypericum perforatum 31
Hypnea musciformis 608
Hypochnus subtilis 489

Idaho and Washington, A new miocene Cercis from 239
Ilex 169, 171, 172; opaca 167–170, 172, 173, 175; verticillata 167, 175; vomitoria 512
Impatiens 302; balsamina 302
Incarvillea 50
Index to American Botanical Literature 76, 141, 183, 259, 347, 409, 515, 561, 625
Induced alteration of sex in the male plant of Mercurialis 51
Internodes of Nitella, The effect of chloroform upon the rotation in the 153
Ipomoea 294, 305, 309; Pes-Caprae 511, 512; purpurea 294
Iris 306
Isnardia palustris 512
Isoetes 281, 282, 306, 525, 526, 531; lacustris 282; melanopoda 277, 530
Iva oraria 164, 176

Jatropha 495
JOHANSEN DONALD A., Studies on the morphology of the Onagraceae—IV. Stenosiphon linofolium 315
JONES, IVAN D., J. ARTHUR HARRIS and TRUMAN A. PASCOE, Note on the tissue fluids of Phoradendron juniperinum parasitic on Juniperus utahensis 113
Juncus alpinus 332; aristulatus 512; balticus 332; brachycarpus 512; castaneus 332; confusus 559; dichotomus 174; exilis 559; Haenkei 332; Mertensianus 332; Roemerianus 513; triglumis 332
Juniperus 169, 171, 172, 306; utahensis 113, 116; virginiana 166, 167, 169, 170, 174
Juniperus utahensis, Note on the tissue fluids of Phoradendron juniperum parasitic on 113

KILLIP, E. P., and A. C. SMITH, The South American species of Viburnum 245
Killipia pedunculata 65; quadrangularis 65
KOLK, LAURA ALMA, Relation of host and pathogen in the oat smut, Ustilago Avenae 443
Kyllinga brevifolia 512

Lantana horrida 512
Lapulla deflexa 342
Larix 372, 373
Lathraea 306
Lathyrus 171; maritimus 166, 175, 335
Laurus grandis 239; princeps 239; similis 239
Leandra caquetensis 64
Lechea maritima 166, 167, 175
Lemna major 117; minor 117
Lepidium virginicum 167, 175, 341, 343
Lepra infusionum 578
Lepraria infusionum 578
Leptarrhena pyrolifolia 334
Leptosphaeria Coniothyrium 490
Libocedrus 239
Life history and cell structure of Chlorococcum infusionum 577
Ligusticum scothicum 336
Lilium 492
Limnia spathulata 31, 34, 36
Limnodictyon Roemerianum 582, 598
Limonium carolinianum 164, 175
Linaria vulgaris 166, 175
LINDSTROM, E. W., The genetics of maize 221
Liquidambar 239; californica 239
Liriodendron 169; Tulipifera 169
Literature, Index to American Botanical 76, 141, 183, 259, 347, 409, 515, 561, 625
Lithothamnium 389, 391; mesomorphum 391
Loiseleuria 309
Lomatogonium rotatum 337
Loranthus 495
Louisiana, Plants observed on an excursion to Grand Isle 509
Lupinus nootkatensis 335
Luzula campestris 332
Lycopodium alpinum 330; annotinum 330; Selago 330; sitchense 330

MA, ROBERT MOHLING, The chloroplasts of Selaginella 277; Starch deposition in the sporogenous cells of certain mosses 525
Maize plant, The ontogeny of the 211

Maize, The genetics of 221
Maize, The pathology of 233
Maize, The phylogeny of 199
Malaxis diphyllos 332
Marcetia taxifolia 63
Marsilea quadrifolia 277, 282
Medicago arabica 512; lupulina 175
Meibomia from Mexico, Two new species of 181
Melandryum 456
Melastomataceae from Colombia and Ecuador, Studies on the flora of northern South America—XIV 63
Melia Azedarach 512
Melilotus 306; indica 510; officinalis 175
Menispermum 170, 172; canadense 167, 169, 170, 175
Menyanthes trifoliata 337
Menziesia ferruginea 336
Mercurialis annua 51, 57, 58
Mercurialis, Induced alteration of sex in the male plant of 51
Mertensia micrantha 560
Mesogloia Filum 381
Method of obtaining pure cultures of Spirodela polyrhiza, A 117
Mexico, Two new species of Meibomia from 181
Miconia Alberti 70; biglomerata 69; **brachygyna** 72; campestris 69; **erosa** 70; granulosa 73; Lehmannii 72; macrophylla 66, 67; macrotis 67; mimica 72; minuta 72; **nigricalyx** 67; obovata 72; **pallida** 72, 73; **paspaloides** 69; rhytidophylla 68; scorpioides 70; spatellophora 71; stricta 71; **submacrophylla** 65; **titanophylla** 67; **trichophora** 68; ulmarioides 70; **Voronovii** 66
Microglossa sessilifolia 24; volubilis 24
Miocene Cercis from Idaho and Washington, A new 239
Misella 398
Moehringia lateriflora 333
Moneses uniflora 336
Monilia cinerea 490; fructigena 490
Monolena **bracteata** 64; cordifolia 64
Monostroma 586
Montia fontana 39
Morella cerifera 512
Morphogenetic relationships between cell and organ in the petiole of Acer, The 1
Morphology of the Onagraceae—IV. Stenosiphon linifolium, Studies on the 315
MORTON, CONRAD V., Two new species of Meibomia from Mexico 181
Morus alba 512
Mosses, Starch deposition in the Sporogenous cells of certain 525
Mount Roraima, Notes on Pteridophyta from 177
MUNZ, PHILIP A., The North American species of Orobanche, section Myzorrhiza 611
Mutisia viciaefolia 288
Mycosphaerella Bolleana 431; cerasella 431; personata 431
Myrica 172, 173, 510; asplenifolia 168, 174; carolinensis 166, 168–170, 174
Myriophyllum spicatum 336
Myrmidone **filiformis** 74
Myzorrhiza californica 617; Cooperi 620; corymbosa 618; Grayana 615; Hutchinsoniana 612; ludoviciana 620; multiflora 622; pinorum 615; tuberosa 614
Myzorrhiza, The North American species of Orobanche, section 611

Narcissus 306
Naucoria semiorbicularis 488, 489
Nepeta Cataria 167, 175, 342
Nerium Oleander 31, 32, 512
New miocene Cercis from Idaho and Washington, A 239
New plants from Colorado 559
NICHOLS, SUSAN P., The effect of chloroform upon the rotation in the internodes of Nitella 153
Nicotiana 373
Nitella 153, 155, 156, 159, 160
Nitella, The effect of chloroform upon the rotation in the internodes of 153
Nitophyllum calophylloides 608; Curdieanum 608; fimbriatum 608
North America, Three species of Scapania from western 87
North American species of Orobanche, section Myzorrhiza, The 611
Nostoc botryoides 577
Notes on Fabaceae—XIII 397
Notes on Pteridophyta from Mount Roraima 177
Notes on the algae of Uruguay 605
Notes on the tissue fluids of Phoradendron juniperum parasitic on Juniperus utahensis 113
Notes on the Volvocales—I–IV 359
Notothylas 277, 281, 282, 525, 526, 528–530
Nymphaea reniformis 453
Nyssa 171; aquatica 510; hesperia 239; Knowltoni 239

Oat smut, Ustilago Avenae, Relation of host and pathogen in the 443
Oedogonium 606
Oenothera 302–305, 307, 378; biennis 166, 167, 175; laciniata 512, 560
Oidium 421
Onagraceae—IV. Stenosiphon linifolium, Studies on the morphology of the 315
Ontogeny of the maize plant, The 211
Ophiobolus graminis 455
Ophrys cordata 332
Opuntia vulgaris 167, 175
Oreinotinus 245; ayavacensis 255; ferrugineus 249, 250; furcatus 249; glabratus 250; Halli 251; Jamesonii 249; lasiophyllus 248; laurifolius 252; Mathewsii 253; obovatus 251; pichinchense 250; reticulatus 258; tinoides 254; triphyllus 252; triphyllus macrophyllus 252; undulatus 248
Origin and development of the vegetation of Sandy Hook, The 163
Origin of the six-furrowed configuration of Dahlia pollen grains, The 371

Orobanche bulbosa 612, 614; californica 612, 617–619; californica **claremontensis** 618; californica **corymbosa** 618; californica Parishii 618, 619; californica **typica** 617–619; comosa 615, 617; comosa vallicola 617, 619; comosa violacea 616; Cooperi 620; **Dugesii** 611–613, Grayana 612, 615, 617, 618; Grayana **Feudgei** 615, 616; Grayana **Jepsonii** 615, 617; Grayana **Nelsonii** 615, 616; Grayana **typica** 616, 617; Grayana **violacea** 615, 616; ludoviciana 612, 613, 620, 621; ludoviciana Cooperi 620; ludoviciana genuina 620; ludoviciana **latiloba** 620, 621; ludoviciana multiflora 622; ludoviciana **valida** 620, 621; multicaulis 611–613; multicaulis **genuina** 613; multicaulis **Palmeri,** 613; multiflora 612, 622; multiflora **arenosa** 622, 623; multiflora **Pringlei** 622, 623; multiflora **typica** 622; multiflora **xanthochroa** 622, 623; pinorum 612, 614; tuberosa 614; valida 621; xanthochroa 612, 623
Orobanche, section Myzorrhiza, The North American species of 611
Osmorhiza divaricata 336; purpurea 336
OSTERHOUT, GEORGE E., New plants from Colorado 559
Ostrya oregoniana 239
Oxyria digyna 333
Oxytropis campestris 335; gracilis 335

Pandorina 361, 364–366; charkowiensis 365
Panicum amarum minor 174; clandestinum 174; lanuginosum 512; repens 512; sphaerocarpon 512; virgatum 174
Parnassia Kotzebuei 334; palustris 334
PASCOE, TRUMAN A., J. ARTHUR HARRIS and IVAN D. JONES, Note on the tissue fluids of Phoradendron juniperinum parasitic on Juniperus utahensis 113
Paspalum ciliatifolium 512; Larranagi 512
Pathogen in the oat smut, Ustilago Avenae, Relation of host and 443
Pathology of maize, The 233
Paulownia imperialis 47; tomentosa 47
Paulownia, The relationships of 47
Pediastrum 62, 586, 598
Penicillium purpurogenum 236
Pentstemon 48–50; **pallescens** 559
Persicaria 513
Petasites frigida 338
Phaca microcystis 403; misera 403
Phelipaea californica 617; comosa 615; erianthera 622; ludoviciana 620; pinetorum 614; tuberosa 614
Phleum alpinum 331; pratense 174, 341
Phlox Drummondii 513
Phoradendron juniperinum 113, 116
Phoradendron juniperinum parasitic on Juniperus utahensis, Note on the tissue fluids of 113
Phragmites 168; communis 166, 174, 510
Phyla lanceolata 512, 513
Phyllobium 599
Phyllodoce glandulifiora 336
Phyllophora Brodiaei 607
Phyllostachys aurea 534; bambusoides 536; mitis 534, 535, 546; nigra 533–535, 537, 538, 540–543, 545, 547–549, 552–557; viridi-glaucescens 534, 535
Phyllostachys nigra, with special reference to atmospheric conditions of temperature and moisture, Daily periodicity of growth in the bamboo 533
Phyllosticta carpogena 433
Phylogeny of maize, The 199
Physcomitrium 525, 528, 531; turbinatum 526, 528, 529
Physoderma 234
Phytolacca decandra 170, 175
Phytophthora 493, 495, 496
Piaropus crassipes 510
Picea sitchensis 330
Pilobolus 594, 595
Pinguicula vulgaris 337
Pinus 169, 170, 341; contorta 331; monticolensis 239; rigida 168, 169, 172, 174
Plantago 337; lanceolata 342; major 343, 424; maritima 333, 337; virginica 512, 513
Plants from Colorado, New 559
Plants observed on an excursion to Grand Isle, Louisiana 509
Platanus dissecta 239
Platycapnos spicatus 39
Platydorina 359, 364; caudata 364
Pleodorina 361, 362, 364, 365; californica 361, 364; illinoisensis 361
Pluchea camphorata 164
Pneumaria maritima 337
Poa alpina 331; annua 331, 513; arctica 331; compressa 174, 340, 341; eminens 331; gracillima 331; hispidula 331; laxa 331; pratensis 331, 340, 341; stenantha 331
Podosphaera Oxyacanthae 423
Pollen grains in the identification and classification of plants—V. Haplopappus and other Astereae: the origin of their furrow configurations 21
Pollen grains, The origin of the six-furrowed configuration of dahlia 371
Polygonella articulata 166, 174
Polygonum acre 174; amphibium 40; Convolvulus 343; Fowleri 333; prolificum 174; scandens 167, 174; viviparum 333
Polypodium vulgare 330
Polysiphonia virgata 609
Polystichum Andersoni 328, 330; Braunii 330; Lonchitis 330
Populus deltoides 174; grandidentata 174; heteromorpha 239; Lindgreni 239; trichocarpa 333
Porana 240
Porphyra microphylla 607; minor 606, 607; vexillaris 607
PORTERFIELD, JR., WILLARD M., Daily periodicity of growth in the bamboo, Phyllostachys nigra, with special reference to atmospheric conditions of temperature and moisture 533
Portulaca grandiflora 40; oleracea 40
Potamogeton filiformis 331

Potentilla anserina 335; villosa 335
Prenanthes hastata 338
Primula egaliksensis 336
Protococcus viridis 597
Prunella vulgaris 337
Prunus maritima 166–170, 172, 175; serotina 166–170, 172, 173, 175
Psalliota campestris 489
Psedera 172; quinquefolia 166, 167, 169, 170, 175
Pseudoparenchyma, The tetrakaidecahedron in 59
Psiada 24
Pteridophyta from Mount Roraima, Notes on 177
Puccinellia maritima 331; paupercula alaskana 331; phryganodes 331
Puccinia coronata 456; graminis 452, 455, 462, 475; graminis Tritici 455; Helianthi 462; Sorghi 456; triticina 455
Pyramimonas 585
Pyrola chlorantha 336; secunda 336; uliginosa 336
Pyrus arbutifolia 167, 175; Malus 175
Pythium Debaryanum 428, 453

Quercus 169; agrifolia 618; alba 169; Chaneyi 239; ilicifolia 169; Prinus 169; rubra 169; simulata 239; Treleasii 239; virginiana 510, 513

Ranunculus abortivus 175; Bongardi 334; Eschscholtzii 334; hyperboreus 334; muricatus 513; sceleratus 513
Relation of host and pathogen in the oat smut, Ustilago Avenae 443
Relationships between cell and organ in the petiole of Acer, The morphogenetic 1
Relationships of Paulownia, The 47
Rhinanthus Crista-galli 337
Rhizoclonium hieroglyphicum 605
Rhododendron 288–290, 292, 294, 300, 302–310; arborescens 285, 302; calendulaceum 285, 302; carolinianum 285, 302; catawbiense 285–288, 291–293, 295, 300, 302, 303, 308, hirsutum 304, indicum 302; luteum 302; maximum 285, 302; viscosum 302
Rhododendron catawbiense, The development of pollen and viscin strands in 285
Rhus 168; copallina 166–169, 175; glabra 167, 175, 341; radicans 172, 513; Toxicodendron 166, 167, 169, 170, 172, 175; typhina 167, 169, 175
Ribes bracteosum 334; lacustre 334; laxiflorum 334
Rivina brasiliensis 40; humilis 40
Robinia 170; pseudo-Acacia 168, 169, 175
Romanzoffia sitchensis 337
Roripa clavata 334
Rosa 172; humilis 166–168, 170, 175; rubiginosa 175
Rotation in the internodes of Nitella, The effect of chloroform upon the 153
Rubus 510, allegheniensis 341; arcticus 335; Chamaemorus 335; occidentalis 167, 175; pedatus 335; procumbens 175; spectabilis 335; stellatus 335; trivialis 512, 513; villosus 167, 170, 175
Rudbeckia laciniata 343
Rumex Acetosella 31, 340, 341, 343, 344; crispus 167, 174; Langloisii 513
Ruppia maritima 512
Rydberg, Per Axel, Notes on Fabaceae—XIII 397

Sabal minor 510
Sabatia 164
Saeger, Albert, A method of obtaining pure cultures of Spirodela polyrhiza 117
Sagina decumbens 513; saginoides 333
Salicornia 164, 510; ambigua 164, 174, 513; herbacea 513; mucronata 164, 174
Salix 510, 513; alaxensis 328, 333; alba 174; arctica 333; Barclayi 328, 333; Bebbiana 333; commutata 328, 333; commutata denudata 333; glauca 333; reticulata 333; Scouleriana 333; sitchensis 328, 333; stolonifera 333
Salpiglossis 42, 376, 377; sinuata 33
Salsola 171; Kali 166, 175, 512; Kali tenuifolia 175
Sambucus canadensis 167, 170, 175, 513; pubens 337
Sandy Hook, The origin and development of the vegetation of 163
Sanguisorba sitchensis 335
Santalum 495
Saponaria 456; officinalis 166, 175
Sassafras 171, 172
Saxifraga adscendens 334; caespitosa 334; Lyallii 334; nivalis 334; oppositifolia 334; tricuspidata 334
Scapania aequiloba 105, 109; albescens 87, 88; americana 87, 99, 100, 102–105, 108, 109; Bolanderi 87–90, 92–105, 108; californica 87; Casaresana 96, 97; caudata 88, 97–99; gracilis 89, 93, 95–97, 104; granulifera 87, 105–110; hirosakiana 109; hirosakiensis 110; irrigua 94; nemorosa 88, 89, 99, 104–106; parvitexta 109, 110; recurva 97; Simmonsii 105, 109
Scapania from western North America, Three species of 87
Scenedesmus 585
Scirpus americanus 174; caespitosus 332; carinatus 513
Sclerospora 237; graminicola 236
Sclerotinia 475; libertiana 452
Secale cereale 445
Sedum acre 343; integrifolia 334
Seed-plants and ferns of the Glacier Bay National Monument, Alaska, The 327
Selaginella 277, 278, 281, 306, 525, 526; Apus 278–282, 529, 530; Martensii 277, 279; Riddellii 278, 281; Wrightii 278, 281
Selaginella, The chloroplasts of 277
Senecio lobatus 509; pauciflorus 338; pseudoarnica 338
Sequoia Langsdorfii 239
Serinia oppositifolia 512
Sesban macrocarpa 510
Shepherdia canadensis 335

Sibbaldia procumbens 335
Sida 513
Silene acaulis 334, antirrhina 175, noctiflora 342
Silphium 22
SINNOTT, EDMUND W., The morphogenetic relationships between cell and organ in the petiole of Acer 1
Sisymbrium altissimum 342; officinale leiocarpum 342
Sisyrinchium 512
Sitilias caroliniana 510, 513
Smilacina stellata 167, 168, 174
Smilax Bona-nox 513; lamarensis 239; rotundifolia 167, 169, 170, 174
SMITH, ALBERT C., Notes on Pteridophyta from Mount Roraima 177
SMITH, A. C., and E. P. KILLIP, The South American species of Viburnum 245
SMITH, GILBERT MORGAN, Notes on the Volvocales—I–IV 359
Solanum carolinense 513; Dulcamara 167, 175; nigrum 513
Solidago 172; bicolor 424; caesia 424; lepida 338; multiradiata 338; rugosa 167, 175; sempervirens 166–168, 176
Sonchus asper 509; oleraceus 513
Sophora Alexanderi 239; spokanensis 239
Sorbus sitchensis 335
Sorosporium Reilianum 460; Saponariae 453
South America—XIV. Melastomataceae from Colombia and Ecuador, Studies on the flora of northern 63
South American species of Viburnum, The 245
Spartina glabra alterniflora 164, 174; juncea 174; patens 164, 166, 510
Species in the vicinity of Douglas Lake, Michigan, The effect of increased activities and change in mode of transportation upon the distribution of introduced 339
Species of Orobanche, section Myzorrhiza, The North American 611
Specularia perfoliata 513
Spergularia marina 164, 175; maritima 334
Sphacelotheca cruenta 494; Sorghi 446, 453, 457
Sphaerella 365; lacustris 595
Sphaerocarpos 459
Sphaerotheca Castagnei 62; Humuli 423
Sphenopholis obtusata 513
Spiranthes Romanzoffiana 332
Spirodela polyrhiza 117, 118, 120
Spirodela polyrhiza, A method of obtaining pure cultures of 117
Spirogyra 585
Sporobolus indicus 513
Sporodinia 594–595
Sporogenous cells of certain mosses, Starch deposition in the 525
Stellaria borealis 334; crispa 334; longipes 334
Stenosiphon 315, 317, 318, 321, 323, 324; bracteatus 315; linifolium 315
Stenosiphon linifolium, Studies on the morphology of the Onagraceae—IV 315
Stephanosphaera 365
Streptopus amplexifolius 332
Strophostyles helvola 166, 175
Structure of Chlorococcum infusionum, Life history and cell 577
Studies on the flora of northern South America—XIV. Melastomataceae from Colombia and Ecuador 63
Studies on the morphology of the Onagraceae—IV. Stenosiphon linifolium 315
Study in host-parasite relationships, Cicinnobolus Cesatii, a 421
Suaeda americana 164, 175
Synchytrium 594, 595; decipiens 594
Syntherisma sanguinale 174, 513

Talinum 36; multiflorum 33, 34, 35; patens 35, 39
Tamarix gallica 513
Tamonea 65, 66
Tanacetum 288
Taraxacum lyratum 338; vulgare 341, 344
Taraxia 319, 324; ovata 324
Taxodium 240; distichum 510; dubium 240
Taxus 306, 341
Tetradesmus 585
Tetrakaidecahedron in pseudoparenchyma, The 59
Teucrium canadense 167, 175
Thelypteris palustris pubescens 168, 174
Thielavia basicola 123–125; **terricola** 124, 125
Thielavia, Coniothyrium terricola proves to be a species of 123
Thielaviopsis basicola 124
Three species of Scapania from western North America 87
Thuja 341
Tiarella trifoliata 334
Tibouchina **oroensis** 63, 64
TALDEN, JOSEPHINE E., and ANNA PARKER FESSENDEN, Bactrophora irregularis, a new brown algae from Australia 381
Tilletia 457, 487; Caries, 445; deBaryana 453; endophylla 453; laevis 457; Tritici 447, 457, 487–489, 497
Tissa marina 512, 513
Tissue fluids of Phoradendron juniperum parasitic on Juniperus utahensis, Note on the 113
Tium 399, 401, 404; amplexum 406; arrectum 399–401, 403; Arthurii 398; atratiforme 404; atratum 404, 405; atropubescens 401; brevisetum 397; conjunctum 402, 403; Drummondii 397; Egglestonii 405; eremiticum 399, 400, 402; Howellii 398, 399, 405; inyoense 399; Leibergii 401, 403; malheurense 400; mensarum 404; Michauxii 401; misellum 399, 405; miserum 403, 404; mokiacense 406; Nevinii 399; obscurum 402–404; Orcuttianum 405; owyheense 404, 405; oxytropoides 402; palans 406, 407; panamintense 405; platycarpum 398; racemosum 397, 398, 405; recurvum 405; remotum 401; reventum 403; Salmonis 405; scopulorum 398;

Sheldoni 402; stenolobium 398; terminale 402; Traskiae 399; ursinum 406; Wilsoni 406
Tococa **stellata** 73; stephanotricha 74
Tofieldia intermedia 332
Torresia odorata 331
Toxic effects of iodine and nickel on buckwheat grown in solution cultures 127
Tradescantia 373
Tragacantha Michauxii 401
Tremella botryoides 577
Trichosporum 318
Trichostema lineare 166
Trifolium hybridum 175, 340–342; pratense 175, 342; repens 342
Triglochin maritima 331
Tripsacum 199–202, 207, 209; dactyloides 200, 202
Trisetum spicatum 331
Tsuga heterophylla 331; Mertensiana 331
Two genera of algae new to Bermuda 389
Two new species of Meibomia from Mexico 181
Typha 510, 513; latifolia 168, 174
Typhula 489

Ulva 586; Lactuca 605
Umbellularia lanceolata 240
Uncinula circinata 424
Urocystis 487; Cepulae 447, 453, 487, 491; occulta 446, 453; Tritici 447, 452, 487
Urtica chamaedryoides 513; Lyallii 333
Uruguay, Notes on the algae of 605
Ustilago Avenae 444, 445, 448, 450, 453, 457, 458, 460, 462, 466, 467, 469, 474, 475, 494, 495, 497, 498; bromivora 446; Carbo 444–446, 453, 481, 487; cruenta 446; Hordei 457, 458, 460, 480; hypodytes 453, 488; Ischaemi 488, 489, 491; levis 444, 446, 450, 453, 457, 458, 460, 480, 486, 491; longissima 453, 460, 486; Maydis 446, 453; nuda 448, 450, 451, 453, 457, 458, 474, 475, 492, 494; perennans 488; Sacchari 452; striaeformis 450, 451, 480; Tritici 448, 453, 458, 492; violacea 456, 457, 486, 488, 490; Zeae 233, 234, 453, 457–461, 486, 487, 491, 494
Ustilago Avenae, Relation of host and pathgen in the oat smut 443

Vaccaria vulgaris 339
Vaccinium 285; corymbosum 167, 170, 172, 175; ovalifolium 336; uliginosum 336
Valeriana sitchensis 338
Valonia 390, 391, 393; macrophysa 390; ovalis 390, 394; ventricosa 389–391, 394
Vegetation of Sandy Hook, The origin and development of the 163
Verbascum Thapsus 166, 175, 344
Verbena 510; Bonariensis 513; xutha 513
Veronica 50; americana 337; arvensis 49; peregrina 513
Viburnum 172, 245, 250; bolivianum 258; anabaptista 246, 249, 250; **antioquiense** 248; apiculatum 251; ayavacense 246, 247, 255; cornifolium 248, 255; dentatum 167, 169, 175; divaricatum 248, 256; ferrugineum 249; floccosum 247, 255; fragile 247, 251, 255; furcatum 249; glabratum 246, 247, 250; **Goudotii** 246, 249; **Halli** 247; Incarum 247, 253; **Jamesonii** 246, 249; Jelskii 248, 257; lasiophyllum 246, 248; laurifolium 252; Lehmannii 248, 256; leptophyllum 246, 254; leptophyllum venezuelense 254; **Mathewsii** 247, 253, 254; obovatum 251; pauciflorum 337; pichinchense 247, 250, 253; pichinchense toledense 247, 250; reticulatum 258; rhytidophyllum 249; roraimense 248, 256; Seemenii 248, 257; Seemenii **bolivianum** 258; Seemenii **minus** 258; Spruceanum 247, 254; **subsessile** 248; suratense 247, 251; tinoides 246, 247, 254; tinoides **venezuelense** 254; Toronis 248, 255; **tridentatum** 247, 251; triphyllum 247, 252; triphyllum **lanceolatum** 252; triphyllum **macrophyllum** 252; triphyllum **microphyllum** 252; **undulatum** 246, 248; Urbani 247, 253; Weberbaueri 246, 249; Witteanum 255
Viburnum, The South American species of 245
Vicia ludoviciana 513
Vigna repens 513
Viscum 304
Vitis 169, 170, 172, 510; cordifolia 167, 175
Volvocales—I–IV, Notes on the 359
Volvox 364, 365; aureus 365

Washington, A new miocene Cercis from Idaho and 239
WEATHERWAX, PAUL, The ontogeny of the maize plant 211
WODEHOUSE, ROGER P., Pollen grains in the identification and classification of plants —V. Haplopappus and other Astereae: the origin of their furrow configurations 21; The origin of the six-furrowed configuration of Dahlia pollen grains 371

Xanthium 171; echinatum 166, 176
Xanthoxalis stricta 513

YAMPOLSKY, CECIL, Induced alteration of sex in the male plant of Mercurialis 51
Yucca aloifolia 512

Zauschneria 317, 323
Zea 199–203, 205–209, 222; Mays 199
Zizaniopsis miliacea 510
Zostera 381
Zygnema 585–587